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CIA/OSR /TF 750724 SOVIET MEDIUM TANK PROGRAMS  
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## MEMORANDUM

## Soviet Medium Tank Programs

1. Since as far back as the late 1930's, the Soviets have been committed to the large-scale employment of tanks together with the other elements of armored forces to accomplish many of their basic goals for offensive theater war operations. Since World War II, despite periodic changes in doctrine reflecting greater or lesser emphasis on conventional or nuclear weapons, the importance of the tank in Soviet thinking has remained strong. This commitment to tank warfare was underscored recently when the Soviets started large-scale production of a new generation of tanks and it is likely that, despite the increased threat of such weapons as the anti-tank guided missile, Soviet offensive doctrine in the future will continue to be based on the use of large tank forces.

2. Presently, Soviet motorized rifle and tank divisions are equipped with T-54, T-55, and T-62 tanks. For example, at least half of the Soviet medium tanks in Central Europe are T-62's; the rest are T-55's and T-54's. These tanks are all lineal descendants of the World War II T-34--they all use similar suspension systems and the same engine block is used.

3. The T-55 is basically an improved T-54 and was first placed in large-scale production in 1959.

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It is armed with a rifled 100mm main gun and carries 43 rounds of 100mm ammunition. The effective range of this weapon under combat conditions against other tanks is not much more than 1,500 meters which is less than the range of several other Western and Soviet tanks. However, the tank's reliability and versatility in a variety of roles--including supplementing artillery weapons in indirect fire (a role the smoothbore weapon on the T-62 cannot fulfill)--has apparently motivated the Soviets to continue production of this tank (see chart) through the present at one Soviet tank plant. There is some reason to believe, however, that this plant may soon end production of the T-55 and begin re-tooling for the new Soviet medium tank.

4. The T-62 was introduced in 1961, apparently as a hurried counter to the new generation of Western tanks, such as the M-60, which were appearing at that time. The T-62 chassis and engine are similar to that of the T-55--although it is slightly longer and heavier. The principal improvement compared to the T-55 is the T-62's 115mm smoothbore gun which fires a hypervelocity, armor-piercing, fin-stabilized, discarding-sabot (HVAPFSDS) round. The effective range of this gun under combat conditions against other tanks is about 2,100 meters. Forty rounds of 115mm ammunition are carried. This gun makes the T-62 extremely valuable for engagements with enemy armor, although the failure to make comparable improvements in other subsystems has limited a number of its capabilities--for example, the rigidity of the T-62's suspension system imposes severe limits on speeds during cross-country maneuvering.

5. In 1974 the Soviets began full-scale production of a new medium tank--apparently designated the T-72. References to a new medium tank in Soviet classified writings of the early Sixties and evidence of early dissatisfaction with the T-62 gave Western analysts reason to believe that the T-62 was an interim design and that a successor would soon be appearing. This did not happen, however. Some 13 years elapsed between the appearance of the T-62 and the recent beginning of full series production of its replacement.

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6. Numerous detailed but conflicting defector reports describing new medium tanks suggest that several different models were produced in limited numbers (see chart) and underwent testing--probably concurrently--throughout the late Sixties. Since most of these developmental tanks (generally referred to in the West as M-1970's) incorporated sophisticated subsystems, some of the program delays probably resulted from technical difficulties similar to those experienced by the US MBT-70 and XM-803 programs. In fact, the cancellation of new NATO tank programs such as that for the MBT-70 probably made the development of new Soviet tanks less urgent.

7. The delay also may have been partially due to shifting Soviet concepts of tactical requirements which in turn led to periodic design modifications. For example, improving NATO antitank guided missiles (ATGM's) probably placed a higher premium on improved armor protection for the Soviet tank.

8. Exactly which features of the several developmental tanks have been incorporated in the T-72 is not known. The information available suggests that the new tank incorporates features such as a large-caliber smoothbore gun (probably a slightly improved 115mm gun using some newly developed ammunition) with an automatic loading system, a laser range finder, an improved suspension system, a "sandwich" armor array which offers improved protection against HEAT ammunition, and a combination xenon/infrared light which could be used to disrupt the guidance system of some types of ATGM's. It is reportedly lower, faster, and quieter than present Soviet tanks. In contrast to the T-62, the T-72 apparently incorporates an unusually large number of newly developed subsystems, and is therefore a considerable departure from the previous family of post-World War II Soviet medium tanks. It is also likely to be a substantially more expensive tank than its predecessors.

9. Slightly more than three thousand new medium tanks may have been produced so far. This represents only about six or seven percent of the total active

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Soviet medium tank inventory. Most of these are probably early developmental and limited series production versions. Only about 1,200 to 1,400 of the new T-72 production model are now available, although production should increase markedly over the next year or two.

10. Total Soviet tank production has been relatively low during the last two years (although it is still extremely large when compared with the tank production of any Western country). This does not represent any lessening of the relative Soviet effort being devoted to tank production. Indeed, it is the temporary result of re-tooling at the Soviet tank plants in preparation for what appears to be a major, long-term commitment to the production of the new medium tank. Little evidence is available to suggest the ultimate size of this program. The production estimates shown in the attached chart, which reach 3,000 tanks per year in 1978, may well prove to be very conservative. Soviet tank production has been in excess of 4,000 tanks per year in the recent past and, if the Soviets decide to field the tank rapidly and if the probable high cost and increased complexity of the new tank does not slow production, similar rates could be attained once again.

## Soviet Tank Production

	19-	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
<b>Total Soviet T-55 Production</b>		1000	1000	1000	1000	1000	1400	700	1100	1100	1100	1100	1100	1000	1000	500	<div style="border: 1px solid black; padding: 5px;"> 18,900 Total, '59-'75  16,255 Total for Soviet Forces </div>				
<b>Soviet Forces T-55 Buy</b>		900	900	900	900	900	1200	630	935	880	820	820	820	800	800	400					
<b>Total Soviet T-62 Production</b>		200	600	950	950	1500	1700	2200	3000	3000	2800	2600	2200	1500	500	<div style="border: 1px solid black; padding: 5px;"> 23,700 Total, '61-'74  19,920 Total for Soviet Forces </div>					
<b>Soviet Forces T-62 Buy</b>		180	540	855	855	1350	1510	1780	2350	2400	2240	2080	1760	1200	400						
<b>Total Soviet M-1970 Development / Production All for Soviet Forces</b>																					
<b>Total Soviet T-72 Production</b>																					
<b>Soviet Forces T-72 Buy</b>																					
<b>Total Soviet Tank Production</b>		1200	1600	1950	1950	2500	3100	2900	4150	4150	4100	4200	3800	3000	2300	2100	2200	2700	3000	3000	3000
<b>Soviet Forces Tank Buy</b>		1080	1440	1755	1755	2250	2790	2610	3535	3330	3320	3320	3140	2500	2000	2000	2200	2430	2700	2700	2700